## SUPPLEMENTAL MATERIALS

(1) Title:

Low-carbohydrate diet score and coronary artery calcium progression: Results from the Coronary Artery Risk Development in Young Adults (CARDIA) study

- (2) Running title: low-carbohydrate diets and vascular calcification
- (3) Authors' names:

Jing-Wei Gao<sup>1\*</sup>, M.D.,

Qing-Yun Hao<sup>1\*</sup>, M.D.,

Hai-Feng Zhang<sup>1\*</sup>, M.D., PhD.,

Xiong-Zhi Li<sup>1</sup>, M.D., PhD.,

Zhi-Min Yuan<sup>2</sup>, M.D.,

Ying Guo<sup>3</sup>, M.D., PhD.,

Jing-Feng Wang<sup>1</sup>, M.D., PhD.,

Shao-Ling Zhang<sup>3#</sup>, M.D., PhD.,

Pin-Ming Liu<sup>1#</sup>, M.D., PhD.

(4) Affiliations of the authors:

<sup>1</sup>Department of Cardiology, Sun Yat-sen Memorial Hospital of Sun Yat-sen University, Guangzhou, China

<sup>2</sup>Department of Clinical Nutrition, Sun Yat-sen Memorial Hospital of Sun Yat-sen University, Guangzhou, China

<sup>3</sup>Department of Endocrinology, Sun Yat-sen Memorial Hospital of Sun Yat-sen University, Guangzhou, China

(5) \*Send correspondence to:

Pin-Ming Liu and Shao-Ling Zhang

Pin-Ming Liu Email: liupm@mail.sysu.edu.cn Shao-Ling Zhang Email: zhshaol@mail.sysu.edu.cn

Department of Cardiology, Sun Yat-sen Memorial Hospital of Sun Yat-sen University,

Guangzhou, 510120, China Tel: #0086-20-81332713 Cell phone: #8613602231221

Fax: #0086-20-81332713

<sup>\*</sup>These authors contributed equally to this work.

### **Supplemental Tables**

Table I. Time-Varying Sensitivity Analysis for Risk of CAC Progression for Carbohydrate Intake as A Percentage of Total Energy, Replacing the Missing Dietary Information in Year 20 by Mean Values of Years 0 and 7 Dietary Data

Carbohydrate intake groups (% of total energy)	Model 1 HR (95%CI)	P value	Model 2 HR (95%CI)	P value	Model 3 HR (95%CI)	P value
Low carbohydrate intake group (<43%)	1.0	-	1.0	-	1.0	-
Moderate carbohydrate intake group (43%-49%)	0.789 (0.647, 0.962)	0.019	0.814 (0.667, 0.992)	0.042	0.907 (0.741, 1.111)	0.346
High carbohydrate intake group (49%-74%)	0.614 (0.497, 0.759)	< 0.001	0.625 (0.506, 0.772)	< 0.001	0.784 (0.626, 0.982)	0.034

Model 1: Unadjusted.

Model 2: Adjusted for age, race.

Model 3: Adjusted for Model 2 covariates plus alcohol consumption, baseline CAC score, body mass index, diabetes mellitus, diastolic blood pressure, dietary calcium intake, dietary fiber, dietary magnesium intake, dietary vitamin D intake, education level (high school, college, graduate school), fasting plasma glucose, high-density lipoprotein cholesterol, hypertension, low-density lipoprotein cholesterol, physical activity, serum creatinine, smoking status (current, former, never), systolic blood pressure, triglycerides.

CAC indicates coronary artery calcium; CI, confidence interval; HR, hazard ratio.

Table II. Time Varying Sensitivity Analysis for Risk of CAC Progression for Carbohydrate Intake as A Percentage of Total Energy, Excluding the Participants with Missing Dietary Data in Year 20

Carbohydrate intake groups	Model 1 HR (95%CI)	P value	Model 2 HR	P value	Model 3 HR (95%CI)	P value
(% of total energy)			(95%CI)			
Low carbohydrate intake group	1.0	-	1.0	-	1.0	-
(<43%)						
Moderate carbohydrate intake group	0.811 (0.653, 1.007)	0.058	0.843 (0.678, 1.047)	0.123	0.888 (0.713, 1.108)	0.294
(43%-49%)						
High carbohydrate intake group	0.649 (0.515, 0.817)	< 0.001	0.663 (0.526, 0.835)	< 0.001	0.766 (0.601, 0.976)	0.031
(49%-74%)						

Model 1: Unadjusted.

Model 2: Adjusted for age, race.

Model 3: Adjusted for Model 2 covariates plus alcohol consumption, baseline CAC score, body mass index, diabetes mellitus, diastolic blood pressure, dietary calcium intake, dietary fiber, dietary magnesium intake, dietary vitamin D intake, education level (high school, college, graduate school), fasting plasma glucose, high-density lipoprotein cholesterol, hypertension, low-density lipoprotein cholesterol, physical activity, serum creatinine, smoking status (current, former, never), systolic blood pressure, triglycerides.

CAC indicates coronary artery calcium; CI, confidence interval; HR, hazard ratio.

# **Major Resources Table**

In order to allow validation and replication of experiments, all essential research materials listed in the Methods should be included in the Major Resources Table below. Authors are encouraged to use public repositories for protocols, data, code, and other materials and provide persistent identifiers and/or links to repositories when available. Authors may add or delete rows as needed.

## Animals (in vivo studies)

Species	Vendor or Source	Background Strain	Sex	Persistent ID / URL
NA				

## **Genetically Modified Animals**

	Species	Vendor or Source	Background Strain	Other Information	Persistent ID / URL
Parent - Male	NA				
Parent -	NA				
Female					

#### **Antibodies**

Target antigen	Vendor or Source	Catalog #	Working concentration	Lot # (preferred but not required)	Persistent ID / URL
NA					

#### **DNA/cDNA Clones**

Clone Name	Sequence	Source / Repository	Persistent ID / URL
NA			

### **Cultured Cells**

Name	Vendor or Source	Sex (F, M, or unknown)	Persistent ID / URL
NA			

## **Data & Code Availability**

Description	Source / Repository	Persistent ID / URL
NA		

### Other

Description	Source / Repository	Persistent ID / URL
NA		